

REMARKS

This Amendment is submitted in response to the non-final Office Action mailed on January 28, 2011. No fee is due in connection with this Amendment. The Director is authorized to charge any fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 3712036-00735 on the account statement.

Claims 14-15 and 19 are rejected in this application. Claim 3 was previously canceled without disclaimer. Claims 1-2, 4-13 and 16-18 were previously withdrawn from consideration. In the Office Action, Claims 14-15 and 19 are rejected under 35 U.S.C. §101; and Claims 14-15 and 19 are further rejected under 35 U.S.C. §102. In response, Claims 14-15 and 19 have been amended. The amendments do not add new matter. In view of the amendments and/or for at least the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, Claims 14-15 and 19 are rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. The Patent Office asserts that Claims 14-15 and 19 are drawn to a product of nature because they read on a beet dried naturally such as in the sun. See, Office Action, page 3, lines 6-14. In response, Applicants have amended Claims 14-15 and 19 to specify that the raw plant material is “processed by a drying process at a temperature between 80° C and 105° C.” These amendments do not add new matter. The amendments are supported in the Specification at, for example, page 4, paragraph 56; page 6, paragraphs 94 and 99; pages 6-7, paragraph 105.

One of ordinary skill in the art would understand that a raw plant material cannot be dried naturally by the sun within the claimed temperature range. For example, the highest recorded atmospheric and surface temperatures on Earth are 57.8° C and 70.7° C, respectively, which are both outside the claimed drying temperature range of 80-105° C. See, Wikipedia, “Extremes on Earth,” http://en.wikipedia.org/wiki/Extremes_on_Earth, attached hereto as Exhibit A. In addition, commercial thermometers only have an outdoor temperature range of up to about 158° F (70° C). See, Amazon.com, Timex TX5170 Indoor/Outdoor Thermometer with Indoor Hygrometer and Clock, <http://www.amazon.com/TX5170-Indoor-Outdoor-Thermometer-Hygrometer/dp/B000HU8BHM>, attached hereto as Exhibit B.

Based on at least these noted reasons, Applicants believe that Claims 14-15 and 19 fully comply with 35 U.S.C. §101. Accordingly, Applicants respectfully request that the rejection of Claims 14-15 and 19 under 35 U.S.C. §101 be withdrawn.

In the Office Action, Claims 14-15 and 19 are rejected under 35 U.S.C. §102(b) as being anticipated by “Increase in the sucrose content of sugar beets after their removal from the soil,” Sugar 19:220-4 (1917) to Weichmann (“*Weichmann*”) with evidence provided by the printed publication to Beets (“*Beets*”). Applicants respectfully traverse the rejection for at least the reasons set forth below.

Currently amended independent Claim 14 recites, in part, an orally ingestible composition comprising a fat source and at least one raw plant material selected from the group consisting of *Daucus*, *Helianthus*, *Beta* and combinations thereof, the plant material being processed by a drying process at a temperature between 80° C and 105° C to obtain glucosamine in an amount greater than 150 mg/kg dry matter. Similarly, currently amended independent Claim 15 recites, in part, a skin or hair care product comprising a fat source and at least one raw plant material that is processed by a drying process at a temperature between 80° C and 105° C to obtain glucosamine in an amount greater than 150 mg/kg dry matter. Currently amended independent Claim 19 recites, in part, an orally ingestible composition comprising a source of protein and at least one raw plant material selected from the group consisting of *Daucus*, *Helianthus*, *Beta* and combinations thereof, the plant material being processed by a drying process at a temperature between 80° C and 105° C to obtain glucosamine in an amount greater than 150 mg/kg dry matter. The amendments do not add new matter. The amendments are supported in the Specification at, for example, page 4, paragraph 56; page 6, paragraphs 94 and 99; pages 6-7, paragraph 105.

In fresh plant materials, free glucosamine has not been observed or has been observed only at levels less than 1 mg per kg dry matter. See, Specification, page 2, paragraphs 25-30. However, it has been surprisingly discovered that high amounts of glucosamine can be formed during a controlled drying process of certain raw plant materials. See, Specification, page 3, paragraphs 37-41. Therefore, by drying the claimed plant materials at a temperature between 80° C and 105° C, a product containing greater than 150 mg/kg dry matter of glucosamine can be obtained. See, Specification, page 3, paragraphs 37-40 and 47. It is likely that during the drying process, the glucosamine comes not from the direct degradation of macromolecules, but rather

from the release of free fructose and amino acids, followed by Heyns/Amadori reactions. See, Specification, page 4, paragraphs 56-61.

In contrast, *Weichmann* fails to disclose or suggest each and every element of independent Claims 14-15 and 19. *Weichmann* fails to disclose or suggest a raw plant material that is processed by a drying process at a temperature between 80° C and 105° C to obtain glucosamine in an amount greater than 150 mg/kg dry matter as required by Claims 14-15 and 19.

As admitted by the Patent Office, *Weichmann* merely teaches beets dried at a temperature between 40° C and 50° C in order to obtain a high concentration of sucrose. See, Office Action, page 4, lines 3-4; *Weichmann*, Abstract, lines 8-12. In fact, *Weichmann* specifically teaches that more sugar was found in the beets that were dried at a lower temperature and that the optimum temperature for drying its beets is below 54.4° C. See, *Weichmann*, Abstract, lines 11-12. Therefore, *Weichmann* fails to teach a raw plant material that is processed at a temperature between 80° C and 105° C in accordance with the present claims.

The Patent Office further asserts that the beets disclosed by *Weichmann* read on the claimed beets “since they were dried at a temperature of 110° C or below, which is a process to obtain glucosamine in an amount greater than 150 mg/kg dry matter, as evidenced by the previously pending claim 3 and the instant specification.” See, Office Action, page 4, lines 6-10. The Patent Office states that because “the instant claims are drawn to a product rather than a process,” it is Applicants’ burden to come forward with evidence establishing an unobvious difference between the claimed beets and the beets disclosed in *Weichmann*. See, Office Action, page 4, lines 12-22; page 5, lines 1-3.

In response, Applicants respectfully submit that the Patent Office has failed to provide a rationale showing that the beets disclosed in *Weichmann* appear to be the same as the claimed plant material. For example, contrary to the Patent Office’s assertion, the present Specification does not teach that glucosamine in an amount greater than 150 mg/kg dry matter can be obtained merely by drying raw plant materials “at a temperature of 110° C or below.” Instead, the Specification teaches that greater than 150 mg/kg dry matter of glucosamine can be obtained when a plant material is harvested, cut and dried under the following conditions: (1) at a temperature between 80° C and 105° C; and (2) for 5 to 50 hours. See, Specification, page 3, paragraph 47; page 4, paragraph 56. In addition, Examples 1 and 2 show drying the raw plant materials at 91° C for 7 hours and 92° C for 50 hours to obtain glucosamine concentrations of

190 mg/kg dry weight and 900 mg/kg dry weight, respectively. See, Specification, page 6, paragraphs 94 and 99; pages 6-7, paragraph 105. As the Patent Office admits, *Weichmann* merely teaches drying its beets at a temperature between 40° C and 50° C and fails to disclose drying the beets for 5-50 hours. See, Office Action, page 4, lines 12-13. Therefore, the Patent Office has failed to demonstrate that the beets of *Weichmann* appear to contain glucosamine in an amount greater than 150 mg/kg dry matter in accordance with the present claims.

For at least the reasons discussed above, the cited references fail to disclose or suggest each and every element of independent Claims 14-15 and 19. As a result, Applicants respectfully submit that independent Claims 14-15 and 19 are novel, nonobvious and distinguishable from the cited references.

Accordingly, Applicants respectfully request that the rejection of Claims 14-15 and 19 under 35 U.S.C. §102(b) be withdrawn.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly request an early allowance of the same. In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

K&L GATES LLP

BY 

Robert M. Barrett
Reg. No. 30,142
Customer No. 29157
Telephone No. 312-807-4204

Dated: April 28, 2011

EXHIBIT A

Hello. [Sign in](#) to get personalized recommendations. New customer? [Start here.](#)

FREE 2-Day :
Your Amazon.com | Today's Deals | Gifts & Wish Lists | Gift Cards | Your Digital Items | Y

Shop All Departments

Search **Electronics**

Cart

All Electronics

Brands Bestsellers

Audio & Home Theater

Camera & Photo

Car Electronics & GPS

Cell Phones & Accessories

Computers

MP3 Player

More Amazon.com Search Results for "temperature range outdoors"



Ambient Weather WS-1280 Wireless Weather Forecaster with Indoor Temperature and Humidity Monitor
Buy new: ~~\$39.99~~ **\$24.99**
2 Used & new from \$19.99 (12)



Honeywell TM005X Wireless Indoor/Outdoor Thermo-Hygrometer
Buy new: ~~\$39.99~~ **\$39.99**
5 Used & new from \$39.99 (227)



La Crosse Technology 9160U Digital Thermometer with Wireless Remote
Buy new: ~~\$29.95~~ **\$21.84**
22 Used & new from \$14.95 (140)

[See all 190 results](#)



Click for larger image and other views



[View and share related images](#)

Timex TX5170 Indoor/Outdoor Thermometer with Indoor Hygrometer and Clock
by [Maverick](#)
(54 customer reviews) (5)

List Price: ~~\$14.99~~
Price: **\$14.25** & eligible for **FREE Super Saver Shipping** on orders over \$25. [Details](#)
You Save: \$0.74 (5%)

In Stock.
Ships from and sold by **Amazon.com**. Gift-wrap available.

Want it delivered Wednesday, April 20?
Order it in the next 5 hours and 52 minutes, and choose **One-Day Shipping** at checkout. [Details](#)
5 new from \$13.43

Quantity:

☐ Yes, I want **FREE Two-Day Shipping** with Amazon Prime

or
[Sign in](#) to turn on 1-Click ordering.

More Buying Choices

Ace Photo Digital
\$13.99 + Free Shipping

Ambient Weather
\$13.43 + \$7.79 shipping
5 new from \$13.43

Have one to sell? [Sell yours here](#)

[Share](#)



Browse Weather Monitors
Shop our full selection of [weather instruments](#). Browse other gift ideas such as [artwork](#), [clocks](#), and [figurines](#) in our [Home Décor Store](#).

Customers Viewing This Page May Be Interested in These Sponsored Links [\(What's this?\)](#)

Thermometer Outdoor
[grainger.com/Thermometers](#) - Shop Assorted Thermometers Online. Grainger® For All Industrial Needs.

<http://www.amazon.com/TX5170-Indoor-Outdoor-Thermometer-Hygrometer/dp/B000HU8BHM>

4/19/2011

Outside Thermometer
coleparmer.com/BiMetal-Thermometers - Shop all brands and types. Taylor & Cole-Parmer. Shop Today.

Wireless Weather Stations
www.weathershack.com - Free Shipping, Free Batteries, & Excellent Customer Service!

See a problem with these advertisements? [Let us know](#)

[Advertise on Amazon](#)

Frequently Bought Together





Price For All Three: \$37.72


[Show availability and shipping details](#)


- ✓ **This item:** Timex TX5170 Indoor/Outdoor Thermometer with Indoor Hygrometer and Clock \$14.25
- ✓ LCD Display Temperature and Humidity Meter with Alarm Clock Hygrometer by Generic \$10.48
- ✓ Chaney Indoor Thermometer and Humidity Gauge by Chaney Instruments \$12.99

What Do Customers Ultimately Buy After Viewing This Item?

- 

36% buy
Chaney Indoor Thermometer and Humidity Gauge by Chaney Instruments (125)
\$12.99
- 

34% buy the item featured on this page:
Timex TX5170 Indoor/Outdoor Thermometer with Indoor Hygrometer and Clock (54)
\$14.25
- 

11% buy
Oregon Scientific THT312 Indoor/Outdoor Thermometer Clock with Wired Probe by Oregon Scientific (84)
\$11.75
- 

11% buy
Honeywell TM005X Wireless Indoor/Outdoor Thermo-Hygrometer (227)
\$39.99

> [Explore similar items](#)

Technical Details

- Compact electronic indoor/outdoor thermometer with hygrometer and built-in quartz clock
- Indoor temperature range of 32 to 122 degrees F and outdoor range of -4 to 158 degrees F
- Reads relative humidity between 20 and 90 percent; includes wired remote sensor with 10-foot cord
- Records day's maximum and minimum temperatures; requires single AAA battery (not included)
- Sleek white plastic housing; measures 2.88 x 5.44 x 0.81 inches (W x H x D); 1-year warranty

Product Details

Product Dimensions: 5 x 1 x 3 inches

Shipping Weight: 1 pounds ([View shipping rates and policies](#))

Shipping: This item is also available for shipping to select countries outside the U.S.

ASIN: B000HU8BHM

Item model number: TX5170

Batteries: 1 AAA batteries required. (included)

Average Customer Review: (54 customer reviews)

#45 Top Rated in [Home & Garden](#) > [Weather Instruments](#) > [Thermometers](#)

Amazon Bestsellers Rank: #1,942 in Electronics (See Top 100 in Electronics)

#7 in [Home & Garden](#) > [Weather Instruments](#) > [Thermometers](#)

Date first available at Amazon.com: August 16, 2006

Would you like to [update product info](#), [give feedback on images](#), or [tell us about a lower price](#)?

Product Description

Amazon.com Product Description

They say it's not the heat, but the humidity. Well fret not, because the versatile Timex TX5170 electronic thermometer displays both at the same time. The compact unit--which sits unobtrusively on a desktop, table, or shelf--sports a three-line LCD panel with bold, conspicuous readouts. The top line displays the indoor temperature, the middle line displays the outdoor temperature, and the bottom line shows either the indoor relative humidity or the time, depending in your preference. As a result, you can instantly gauge whether to wear shorts or pants on a seemingly mild summer day, make sure the humidity level is correct in the greenhouse, or crank the air conditioner as the afternoon progresses. The temperature readings range from 32 to 122 degrees F (0 to 50 degrees C) for the indoor temperature to -4 to 158 degrees F (-20 to 50 degrees C) for the outdoor temperature. The relative humidity, meanwhile, is measured on a scale of 20 to 90 percent, with the hygrometer performing best between 40 and 70 percent.

The display is remarkably easy to read--even from across the room--thanks to the bold digits and crisp readout. At the same time, the TX5170 includes an integral minimum/maximum memory function that records the high and low temperatures of the day. The values are available at the push of a button, with a second button clearing and resetting the memory on command. Best of all, the unit is notably compact at 2.88 by 5.44 by 0.81 inches (W x H x D), making it a great choice for home offices, backyard greenhouses, and everywhere in between.

The TX5170 comes with a wired, weather-resistant temperature probe (with a 10-foot cord) for gauging the outdoor temperature, along with an integral folding stand. Because of the wired probe, the main unit will need to be located near a window to enjoy the outdoor temperature functions. And should you want to mount the unit on a wall rather than place it on a shelf or desk, simply suspend it from its rear hanger hole (you'll need to provide the nail or screw). As a final bonus, the TX5170 is streamlined and attractive, with a sleek white plastic housing and a snazzy seven-button control panel on the front.

The TX5170 requires a single AAA battery (not included) and is backed by a one-year warranty.

What's in the Box

Base station, wired weather sensor with 10-foot cord, integral folding stand, user's manual.

Product Description

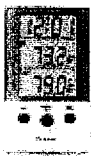
Top window shows indoor temperature. Middle window shows outside temperature. Bottom window shows both the humidity reading or the quartz clock. Temperature range indoor thermometer - 32° to 122° Fahrenheit. Outdoor Temperature range -4° to +158° Fahrenheit. Fahrenheit and Celsius thermometer scales. Easy to use set buttons in classic new style. The LCD clock has AM/PM icon. Records Minimum and Maximum temperatures for both indoor and outdoor thermometers. Ten foot all weather temperature sensor. Case molded in durable plastic and finished in Pearlized white finish. Requires 1 AAA battery. Battery not included. Case size is 5 7/16 and 2 7/8 x 13/16 Backed by Timex one year limited warranty.

Customers Who Bought This Item Also Bought

Page 1 of 10

Back

Next



Oregon Scientific
THT312 Indoor /
Outdoor Th... by Oregon
Scientific
(84)
\$11.75



LCD Display
Temperature and
Humidity Meter with
Alarm... by Generic
(10)
\$10.48



pH Control Kit - General
Hydroponics by General
Hydroponics
(18)
\$19.73



Taylor 1523 Indoor /
Outdoor Thermometer
and Hygrometer by
Taylor
(18)
\$8.79



4x4' Mylar HYDROPONIC
GROW TENT 48x48x76
HY... by LEDWholesalers
(25)
\$94.90



Hanna Instruments HI
7061M Electrode
Cleanin... by Hanna
Instruments
(2)
\$10.79



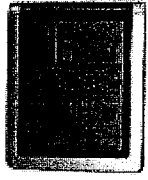
Speedster/ variable Fan
speed control by Control
Wizard Products
(5)
\$23.15



Hydrofarm MTPRTC
Digital Thermostat For
Heat Mats by Hydrofarm
(36)
\$26.99



Fiskars 9921 Softouch
Micro-Tip Pruning Snip
by Fiskars
(64)
\$9.81



Chaney Indoor
Thermometer and
Humidity Gauge by
Chaney Instruments
(125)
\$12.99

Product Ads from External Websites (What's this?)

Sponsored Content

See a problem with these advertisements? [Let us know](#)

[Advertise here](#)

Customer Reviews

Average Customer Rating

(54 customer reviews)

Construction quality

(26)

Share your thoughts with other customers:

5 star: (22)
4 star: (12)
3 star: (5)
2 star: (3)
1 star: (12)

> [Rate this item's attribute or suggest a new one.](#)

Most Helpful Customer Reviews

69 of 74 people found the following review helpful:

Failed after one week, December 14, 2007

By **Armand Aisselle** (North Hollywood, California) - [See all my reviews](#)

Amazon Verified Purchase ([What's this?](#))

This review is from: **Timex TX5170 Indoor/Outdoor Thermometer with Indoor Hygrometer and Clock (Electronics)**

After one week of normal use the Timex TX5170 stopped functioning: The readout displayed random digits. The battery tested fine (1.5 volts on my voltmeter), but I decided to give the TX5170 the benefit of the doubt, so I went out and bought a new alkaline AAA battery and installed it. And, lo and behold, the TX5170 sprang back to life -- for six hours. Then it gave up the ghost completely. Installing ANOTHER new alkaline battery did no good.

I once met a retired advertising executive who purported to be the guy who came up with Timex's classic slogan, "It Takes A Licking But Keeps on Ticking." My problems with the Timex TX5170 recalled this slogan to my mind. "Perhaps that's the problem," I said to myself. So I covered the TX5170 with chocolate syrup and proceed to lick it. Alas, still only random digits in the readout. [Just kidding.]

The online product description states that the TX5170 is covered by "Timex's one-year warranty." That sounds good, only the "instruction manual" included with the unit does not mention a warranty, nor does it provide any contact information for the manufacture. The fine print on the back of the unit itself states that it was manufactured in China for the Maverick Corporation of Edison, New Jersey, and that the name "Timex" is used under license in the United States and certain other territories.

Very helpful.

So the question is, how much time and effort am I going to expend to gain satisfaction for a non-functioning fifteen dollar thermometer?

Help other customers find the most helpful reviews

[Report abuse](#) | [Permalink](#)

Was this review helpful to you?

[Comment \(1\)](#)

30 of 31 people found the following review helpful:

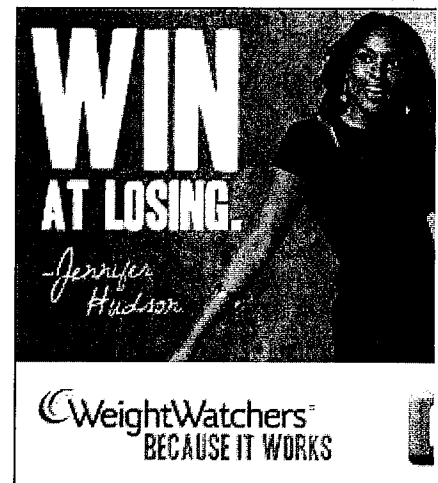
Also failed, December 16, 2007

By **Seth A. Wallis** (Austin, TX) - [See all my reviews](#)

This review is from: **Timex TX5170 Indoor/Outdoor Thermometer with Indoor Hygrometer and Clock (Electronics)**

Funny that I had to Google to find this in Amazon (I guess stuff that's sold out doesn't come up in the Amazon search) and then when I do I read the

ADVERTISEMENT



[Ad feedback](#)

Most Recent Customer Review

Does What it Says

Bought this about a month ago as a humidifier and needing to keep humidity in the house. This does and tells the temp to boot. [Read](#)

Published 6 days ago by Max Weigel

works great

This indoor/outdoor thermometer replaced a smaller one I had, which was fine, but was small, and I had to close to read the numbers. [Read](#)

Published 23 days ago by J. Parsons

Temperature Gauge

Great product. Now we have an accurate reading of temperature indoors and the humidity reading is also

Published 1 month ago by E. Fransen

works if...

Works if you realize that the item

"Failed in One Week" review. Well, at least that reviewer got a week out of it. Mine failed in about 3 days. Several different batteries later and I determined that its the unit. Ditto "how much trouble will I go to for a \$15 thermometer". Guess its the trash heap for this one.

Help other customers find the most helpful reviews

Was this review helpful to you?

[Report abuse](#) | [Permalink](#)

[Comments \(2\)](#)

25 of 26 people found the following review helpful:

Quality Timex Thermometer/Hygrometer/Clock,
May 28, 2007
By **M. Whitley** (California) - [See all my reviews](#)

Amazon Verified Purchase ([What's this?](#))
This review is from: Timex TX5170 Indoor/Outdoor Thermometer with Indoor Hygrometer and Clock (Electronics)
Easy to set up - needs one AAA battery. Compact unit, yet has nice, large digital display showing humidity, outside temperature and either indoor temperature or clock (a button allows you to select which one will display). The unit seems very accurate and I consult the readings several times a day. I would definitely purchase this product again.

Help other customers find the most helpful reviews

Was this review helpful to you?

[Report abuse](#) | [Permalink](#)

[Comment](#)

Share your thoughts with other customers:

> [See all 54 customer reviews...](#)

be calibrated for temp and humid
this by placing unit into a plastic
along with 3/4 cup of salt filled to
Read more
Published 1 month ago by joegrows

Perfect for monitoring tanks!
I have two reptiles, a boa and a
both of these guys I have to keep
the temp's on both sides of the tank
humidity. **Read more**
Published 2 months ago by John F. Peters

Doesn't work
This item is very unreliable. I suspect
humidity readings were off because
seemed awfully low, so I finally found
way to test it and discovered it was
Read more
Published 4 months ago by CastleLyons

Cheap and reliable
I've had my unit for 7 months and
worked flawlessly. Hope that isn't
death. No problems, arrived quickly
was easy and it sits there telling
Read more
Published 5 months ago by Steve

buy a wireless one if they are cheap
I bought wired thermometers several
ago because wireless models were
expensive.

But nowadays you can get wireless
at very low prices. **Read more**
Published 5 months ago by Lombard Street

Overall good
I didn't have any kind of problem
thermometer and it seems to be
well. The only weak point is that
simply unplug the wire to the external
sensor. **Read more**
Published 7 months ago by Naim Matasci

Product works, performs as expected
So far so good. Construction is good
does not impart confidence of long
durability by any means. **Read more**
Published 9 months ago by Solid Snake

Search Customer Reviews

☒ Only search this product's reviews

> [See all 54 customer reviews](#)

Buy This Product and Related Items



Timex TX5170 Indoor/Outdoor Thermometer with Indoor Hygrometer and Clock
~~\$14.99~~ \$14.25

Most Popular

Soils, Fertilizers & Mulches

Weather Stations

Plant Germination Equipment

Electrical Timers

Weather Hygrometers

Tag this product [\(What's this?\)](#)

Think of a tag as a keyword or label you consider is strongly related to this product.
Tags will help all customers organize and find favorite items.

Search Products Tagged with

> [Explore product tags](#)

Customer Discussions

This product's forum

Discussion

Replies

Latest Post

No discussions yet

Ask questions, Share opinions, Gain insight

Start a new discussion

Topic:

Search Customer Discussions

Only search this product's forum

Related forums

hygrometer (start the discussion)

thermometer hygrometer (start the discussion)

thermometer (6 discussions)

Look for Similar Items by Category

[Home, Garden & Pets](#) > [Patio, Lawn & Garden](#) > [Weather Instruments](#) > [Thermometers](#)

Feedback

- ▶ If you need help or have a question for Customer Service, [contact us](#).
- ▶ Would you like to [update product info](#), [give feedback on images](#), or [tell us about a lower price?](#)
- ▶ Is there any other feedback you would like to provide? [Click here](#)

Your Recent History [\(What's this?\)](#)

Get to Know Us

- Careers
- Investor Relations
- Press Releases
- Amazon and Our Planet

Make Money with Us

- Sell on Amazon
- Join Associates
- Advertise Your Products
- Self-publish with Us
- › See all

Let Us Help You

- Shipping Rates & Policies
- Amazon Prime
- Returns Are Easy
- Manage Your Kindle
- Help



Canada China France Germany Italy Japan United Kingdom

- | | | | | | | | | | | |
|----------------|-----------|-------------|-------------|---------|------------------|---------------|----------------|-------------|-----------------|------|
| AmazonWireless | Askville | Audible | DPReview | Endless | Fabric | IMDb | Shopbop | Small Parts | Warehouse Deals | Wo |
| Cellphones & | Community | Download | Digital | Shoes | Sewing, Quilting | Movies, TV | Designer | Industrial | Open-Box | Nev |
| Wireless Plans | Answers | Audio Books | Photography | & More | & Knitting | & Celebrities | Fashion Brands | Supplies | Discounts | Give |

Conditions of Use Privacy Notice © 1996-2011, Amazon.com, Inc. or its affiliates

EXHIBIT B

Extremes on Earth

From Wikipedia, the free encyclopedia

Further information: World record, List of extreme points lists, and Extreme points of Earth


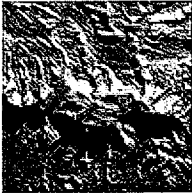
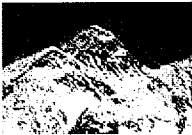
This article describes **extreme locations on Earth**. Entries listed in bold are Earth-wide extremes.





Contents

- 1 Extreme elevations and temperatures per continent
- 2 Greatest vertical drop
- 3 Subterranean
- 4 Greatest oceanic depths
- 5 Deepest ice
- 6 Coldest and hottest inhabited places on Earth
- 7 Northern and southernmost points of land on Earth
- 8 See also
- 9 References
- 10 External links

Extreme elevations and temperatures per continent

Further information: List of highest mountains, Seven Summits, and List of weather records

Continent	Elevation (height above/below sea level)		Temperature (recorded) ^{[1]A}	
	Highest	Lowest	Highest	Lowest
Africa	5,893 m (19,334 ft) Kilimanjaro, Tanzania	 −155 m (−509 ft) Lake Assal, Djibouti	57.8 °C (136.0 °F) Al 'Aziziyah, Libya 13 September 1922. (Disputed)	−23.9 °C (−11.0 °F) Ifrane, Morocco 11 February 1935
Antarctica	4,892 m (16,050 ft) Vinson Massif	 −50 m (−164 ft) [2] Deep Lake, Vestfold Hills (compare the deepest ice section below)	15 °C (59 °F) Vanda Station 5 January 1974	−89.2 °C (−128.6 °F) Vostok Station 21 July 1983
Asia	8,850 m (29,035 ft) Mount Everest, Nepal - China^B	 −422 m (−1,385 ft) Dead Sea shore, Israel - Jordan	55 °C (131 °F) Mitraba, Kuwait 15 June 2010 ^C	−67.8 °C (−90.0 °F) Measured Verkhoyansk, Siberia, Russia (then in the Russian Empire) 5 February 1892 −71.2 °C (−96.2 °F) Extrapolated Oymyakon, Siberia, Russia (then in the Soviet Union) 26 January 1926 ^[3]

Europe	5,642 m (18,510 ft) Mount Elbrus, Russia (compare the Mont Blanc)		−28 m (−92 ft) Caspian Sea shore, Russia (compare the Tagebau Hambach)	48.0 °C (118.4 °F) Athens, Greece (and Elefsina, Greece) 10 July 1977 ^D	−58.1 °C (−72.6 °F) Ust-Shchuger, Russia 31 December 1978
North America	6,198 m (20,335 ft) Denali (Mount McKinley), Alaska, U.S.A.		−86 m (−282 ft) Death Valley, California, U.S.A. (compare the deepest ice section below)	56.7 °C (134.1 °F) Death Valley, California, U.S.A. 10 July 1913	−63 °C (−81.4 °F) Snag, Yukon, Canada 3 February 1947 −66.1 °C (−87.0 °F) North Ice, Greenland 9 January 1954 <i>[citation needed]</i>
Oceania (Australia)	4,884 m (16,024 ft) Puncak Jaya (Carstensz Pyramid), Indonesia (compare the Mount Wilhelm and Mount Kosciuszko)		−15 m (−49 ft) Lake Eyre, South Australia, Australia	50.7 °C (123.3 °F) Oodnadatta, South Australia, Australia 2 January 1960 ^E	−23 °C (−9 °F) Charlotte Pass, New South Wales, Australia 29 June 1994
South America	6,962 m (22,841 ft) Aconcagua, Mendoza, Argentina		−105 m (−344 ft) Laguna del Carbón, Argentina	48.9 °C (120.0 °F) Rivadavia, Salta Province, Argentina 11 December 1905	−32.8 °C (−27.0 °F) Sarmiento, Argentina 1 June 1907

A.^ All temperatures from the World Meteorological Organization unless noted.


B.^ Height above sea level is the usual choice of definition for elevation. In terms of the point farthest away from the centre of the Earth, Chimborazo in Ecuador (6,267 m (20,561 ft)) can be considered the planet's most extreme high point. This is due to the Earth's oblate spheroid shape, with points near the Equator being farther out from the centre than those at the poles.


C.^ This is the highest recorded air temperature. Higher surface temperatures have been recorded, for example, 70.7 °C (159.3 °F) in 2004 and 2005 in the Lut desert, Iran.^{[4][5][6][7]}

D.^ Temperatures greater than 50 °C (122 °F) in Spain and Portugal were recorded in 1881, but the standard with which they were measured and the accuracy of the thermometers used are unknown; therefore, they are not considered official. Unconfirmed reports also indicate that a set of Spanish stations may have hit 48.0 °C (118.4 °F) during the 2003 heat wave.^[8]

E.^ A temperature of 53.1 °C (127.6 °F) was recorded in Cloncurry, Queensland on 16 January 1889 under non-standard exposure conditions and is therefore not considered official.^[9]

Greatest vertical drop

Greatest purely vertical drop	1,250 m (4,101 ft) Mount Thor, Auyuittuq National Park, Baffin Island, Nunavut, Canada (summit elevation 1,675 m (5,495 ft))	
	1,340 m (4,396 ft) Trango Towers, Pakistan (summit elevation 6,286 m (20,623 ft))	

Greatest nearly vertical drop	
-------------------------------	---

Subterranean

Further information: Mining#Records

Deepest mine	+4,000 m (13,123 ft) Mponeng Gold mine, South Africa
Deepest open-pit mine	1,200 m (3,937 ft) Bingham Canyon Mine, Utah, USA
Deepest open-pit mine under sea level	293 m (961 ft) under sea level Tagebau Hambach, Germany
Deepest cave	2,193 m (7,195 ft) Voronya Cave, Arabika Massif, Georgia
Deepest pitch (single vertical drop)	603 m (1,978 ft) Vrtoglavica Cave, Slovenia

Greatest oceanic depths

Atlantic Ocean	8,648 m (28,373 ft) Milwaukee Deep, Puerto Rico Trench
Arctic Ocean	5,450 m (17,881 ft) Litke Deep, Eurasia Basin
Indian Ocean	7,258 m (23,812 ft) Java Trench ^[10]
Pacific Ocean	10,971 m (35,994 ft) Challenger Deep, Mariana Trench ^[11]
Southern Ocean	7,235 m (23,737 ft) South Sandwich Trench (southernmost portion, at 60°S)

Deepest ice

Ice sheets on land, but having the base below sea level. Places under ice are not considered to be on land.

Bentley Subglacial Trench	−2,555 m (−8,383 ft)	Antarctica
Trough beneath Jakobshavn Isbræ	−1,512 m (−4,961 ft) ^[12]	Greenland

Coldest and hottest inhabited places on Earth

Hottest inhabited place	Dallol, Ethiopia, whose annual mean temperature was recorded from 1960 to 1966 as 34.4 °C (93.9 °F). ^[13] The average daily maximum temperature during the same period was 41.1 °C (106.0 °F). ^[14]
Coldest inhabited place	<div>Oymyakon (Russian: Оймякон), a village (selo) in Oymyakonsky Ulus of the Sakha Republic, Russia, located along the Indigirka River.^[15] It has −16 °C (3.2 °F) as yearly average and −46 °C (−51 °F) as daily average in January, the coldest month.</div> <div>The South Pole and some other places in Antarctica are colder and are populated year-round, but almost everyone stays less than a year and could be considered visitors, not inhabitants.</div>

Northern and southernmost points of land on Earth

See also: Northernmost settlements and Southernmost settlements

Northernmost point on land	Kaffeklubben Island, east of Greenland (83°40′N 29°50′W (http://toolserver.org/~geohack/geohack.php?pagename=Extremes_on_Earth¶ms=83_40_N_29_50_W_)) Various shifting gravel bars lie further north, the most famous being Oodaaq
Southernmost point on land	The geographic South Pole

See also

- Extreme points of Earth
- List of weather records
- Weather extremes in Canada
- List of extrasolar planet extremes
- Northernmost settlements
- Southernmost settlements
- Southernmost European settlement of the world
- List of northernmost items
- List of southernmost items

References

1.

^

Global Weather & Climate Extremes (http://wmo.asu.edu/) World Meteorological Organization

2.

^

Indicator 62 - Water levels of Deep Lake, Vestfold Hills (http://data.aad.gov.au/aadc/soe/display_indicator.cfm?soe_id=62), Australian Antarctic Data Centre. Retrieved 15 January 2010.

3.

^

Life Is a Chilling Challenge in Subzero Siberia from the National Geographic (http://news.nationalgeographic.com/news/2004/05/0512_040512_tvoymyakon.html)

4.

^

The Hottest Spot on Earth (http://earthobservatory.nasa.gov/IOTD/view.php?id=7149)

5.

^

Satellites seek global hot spots | csmonitor.com (http://www.csmonitor.com/2006/1102/p16s01-sten.html)

6.

^

The Ceaseless Buzzing of Kinetic Energy (http://discovermagazine.com/2007/jun/hustle-flow), Daniel Engber, May 30, 2007, *Discover*, on line; accessed May 9, 2008.

7.

^

New Images - The Hottest Spot on Earth (http://earthobservatory.nasa.gov/Newsroom/NewImages/images.php3?img_id=17470), news, Earth Observatory, NASA. Accessed on line May 9, 2008.

8.

^

Europe: Highest Temperature (http://wmo.asu.edu/europe-highest-temperature) WM0

9.

^

Transcript of report on the highest temperature (http://www.abc.net.au/am/content/2003/s1015670.htm)

10.

^

Indian Ocean (https://www.cia.gov/library/publications/the-world-factbook/geos/xo.html), *CIA World Factbook*. Accessed on line December 26, 2008.

11.

^

"Daily Reports for R/V KILO MOANA June and July 2009" (http://www.soest.hawaii.edu/UMC/Reports/Archives/KMreportJuneJuly2009.html). University of Hawaii Marine Center. 2009-06-04. http://www.soest.hawaii.edu/UMC/Reports/Archives/KMreportJuneJuly2009.html. Retrieved 2009-06-04.

12.

^

Plummer, Joel. Jakobshavn Bed Elevation (https://www.cresis.ku.edu/~plummer/jakob.html#Bed_1), Center for the Remote

http://en.wikipedia.org/wiki/Extremes_on_Earth

4/19/2011

Sensing of the Ice Sheets, Dept of Geography, University of Kansas.

13. ^ p. 9, *Weather Experiments*, Muriel Mandell and Dave Garbot, Sterling Publishing Company, Inc., 2006, ISBN 1402721579.
14. ^ Average of table on p. 26, *Extreme Weather: A Guide & Record Book*, Christopher C. Burt and Mark Stroud, New York: W. W. Norton & Company, 2007, ISBN 039333015X.
15. ^ p. 57, *Extreme Weather: A Guide & Record Book*, Christopher C. Burt and Mark Stroud, New York: W. W. Norton & Company, 2007, ISBN 039333015X.

External links

- United States National Climatic Data Center (<http://www.ncdc.noaa.gov/oa/climate/globalextremes.html>)

Retrieved from "http://en.wikipedia.org/wiki/Extremes_on_Earth"

Categories: [Mountains](#) | [Extreme points of Earth](#) | [World records](#)

- This page was last modified on 6 April 2011 at 23:49.
 - Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. See Terms of Use for details.
- Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.